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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,553	12/08/2004	Ermanno Filippi	9526-46	3900

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EXAMINER

WALBERG, TERESA J

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/517,553

Applicant(s)

FILIPPI ET AL.

Examiner

Teresa J. Walberg

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/8/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 8, 9, and 12-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 8, 9, and 12 depend from themselves and it is unclear which claims they were intended to depend from. Since the scope of these claims cannot be determined, claims 8, 9, and 12 and their dependent claims have not been examined on the merits at this time.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 4, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Girod et al (5,762,887).

Girod et al discloses (see Figs. 5 and 6) a heat exchange unit (Fig. 5) capable of multiservice use and including a substantially cylindrical shell (31) closed at the opposite ends by base plates (32, 34), a plurality of heat exchangers (36) supported inside the shell (31) and in fluid communication with the outside thereof, at least part of the exchangers

(36) are box shaped (Figs. 5 and 6) and formed from a pair of juxtaposed metallic plates mutually distanced and perimetrically joined to define an inner chamber, a group of said plate exchangers (36) sharing an inlet and an outlet (46, 47), the plate exchangers having a flattened configuration (Figs. 5 and 6) and grouped in a cylindrical arrangement coaxial to the shell, and arranged according to a radial configuration (see Fig. 6), the shell being filled with a filler (col. 10, line 48 and col. 11, line 28), and the heat exchangers being equipped on opposite short sides with connectors for the entry and exit of fluid (46, 47).

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5, 6, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Girod et al (5,762,887) in view of Hamert et al (6,460,614).

Girod et al discloses the claimed structure with the exception of the plates being joined together through a plurality of welding points which give a substantially quilted look, the welding points being distributed on quinconce and or in square pitch and at least one of the exchangers being internally equipped with a separator plate, extending from one side of the exchanger towards a side opposite it and from which the plate is in

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a predetermined spaced relationship, the separator plate having a predetermined length less than that of the long sides, as to which it has a predetermined inclination.

Hamert et al discloses a heat transfer plate having the claimed structure including the plates being joined together through a plurality of welding points (7) which give a substantially quilted look (see Fig. 3), the welding points being distributed in quoince and/or in square pitch (Fig. 3) and at least one of the exchangers being internally equipped with a separator plate (28, 29 in Fig. 12), extending from one side of the exchanger towards a side opposite it and from which the plate is in a predetermined spaced relationship, the separator plate having a predetermined length less than that of the long sides (Fig. 12), as to which it has a predetermined inclination (about 90 degrees, as shown in Fig. 12).

It would have been obvious in view of Hamert et al to use a heat transfer plate having the plates being joined together through a plurality of welding points which give a substantially quilted look, the welding points being distributed on quoince and/or in square pitch and at least one of the exchangers being internally equipped with a separator plate, extending from one side of the exchanger towards a side opposite it and from which the plate is in a predetermined spaced relationship, the separator plate having a predetermined length less than that of the long sides, as to which it has a predetermined inclination in the heat exchanger of Girod et al, the motivation being to provide a more turbulent flow through the channels and thus increase the rate of heat transfer.

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Girod et al (5,762,887) in view of Dang Vu et al (5,035,867).

Girod et al discloses the claimed structure with the exception of at least one of the exchangers being internally equipped in correspondence with the opposite long sides of at least one distributor/ collector duct, the duct being connected on one side to the chamber through at least one opening and on the other side to the outside of the exchanger through a connector. However, Dang Vu et al shows the use of such structure in a plate and shell type heat exchanger. See Fig. 3.

It would have been obvious in view of Dang Vu et al to long side connectors with the plate heat exchangers of Girod et al, the motivation being to more easily form multiple paths through each plate pair.


8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dang Vu (5,047,217), Berg, Ohsaki et al, and Koves are cited to show heat exchanger structure.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa J. Walberg whose telephone number is 571-272-4790. The examiner can normally be reached on M-F 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on 571-272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Teresa J. Walberg
Primary Examiner
Art Unit 3753

tjw